

CURRICULUM VITAE

Personal Data

Name: Ahmed Metwali Mahmoud **Abd El-Aziz**

[*A.M. El-Aziz*]

Gender: Male

Date of Birth: 25.6.1969

Place of Birth: Nag Hammadi-Qena, Egypt

Nationality: Egyptian

Marital Status: Married

Languages

	<i><u>Level</u></i>
• Arabic	1
• English	2
• German	2
• French	4

Present Position: Researcher in National Research Centre, Physical Chemistry Dept.,
Cairo, Egypt.

Lecturer (Sept. 2004), German University in Cairo, Egypt

Home Address: 4/2 Lasslky street, New Maadi, flat 27

Permanent Work Address: National Research Centre, Physical Chemistry Dept., El-Tahrir
Street, Dokki, Cairo, Egypt

From 1.09.04, Work address: German University in Cairo, Main Entrance of El Tagamoa
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Present Address: German University in Cairo, Main Entrance of El Tagamoa Al Khames,
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ahmed.aziz@guc.edu.eg

Academic Degrees

Year	Name of Degree	Institution	Country	Subjects	Grade
2000	<i>Ph.D.</i>	Technical Univ. Dresden,	Germany	Physical chem.	Very good
1996	<i>M.Sc.</i>	Faculty of Science Cairo Univ.,	Egypt	Physical chem.	
1994	<i>Pre-master</i>	Faculty of Science Cairo Univ.,	Egypt	Inorganic chem.	Very good
1991	<i>B.Sc.</i>	Faculty of Science SV-Assiut Univ.,	Egypt	Chemistry	Very good

Stage of University Education

Period	Name	Place	Country	Main Subjects
1987-1991	<i>B.Sc.</i>	Faculty of Science, SV-Assiut Univ.	Qena, Egypt	Chemistry
1994	<i>Pre-master</i>	Faculty of Science, Cairo Univ.	Egypt	Inorganic chemistry
1994-1996	<i>M.Sc.</i>	Faculty of Science, Cairo Univ.	Egypt	Physical chemistry
1997-2000	<i>Ph.D.</i>	Technical Univ. Dresden,	Germany	Physical chemistry
1994- 1995	English course	American Univ. Cairo	Egypt	English language
1997	German course	Goethe Institute, Dresden,	Germany	German language

Professional Background***I. Positions and Activities******Oct. 1992- January 1993***

Teacher for English language at Secondary Agriculture School, Nag Hammadi, Egypt

April 1993

Senior research assistant, National Research Centre, Physical Chem. Dept. Egypt

Sept. 1996

Assistant researcher, National Research Centre, Physical Chem. Dept. Egypt

Oct. 1997- Sept. 1999

Wissenschaftlicher Mitarbeiter (Ph.D. student), in IFW Institut, Dresden Germany

Sept. 1999- June 2000

Wissenschaftlicher Mitarbeiter (Junior researcher) in IFW Institute, Dresden, Germany

(Project of Zr and Nd amorphous materials)

August 2000

Researcher, National Research Centre, Physical Chem. Dept. Egypt

April 2001- Jun 2004

Wissenschaftlicher Angestellter (Post Doctor), Ulm University, Dept. of Electrochemistry,
Ulm, Germany

Sept. 2004

Lecturer, German University in Cairo, Materials Engineering Department / Chemistry
Department, Cairo, Egypt

December 2005

Associate professor, National Research Centre, Physical Chem. Dept. Egypt

II. Membership, Experiences and Skills

- Member of Egyptian Corrosion Society Egypt
- Member of Electrochemistry Society Egypt
- Member of Graduate College Ulm Univ. Germany
- Professional in Computer Hard Ware
- Experience in (SEM, AFM, STM, ESCA/AES, X-ray diffraction, EIS)

III. Back ground

1. Corrosion inhibitor for automotive and cooling water systems
2. Magnetic materials (preparation and characterization) for magnetic train-
superconductively levitated transporting system
3. Single crystal (preparation and characterization)
4. Fuel cells (low temperature fuel cells- Direct Methanol Fuel Cell) as green renewable
energy

IV. Scientific Projects

1. Share in the project of "Evaluation and Development of Rare Earth Permanent
Magnetic Materials" (Nd-Fe-B) 1997-2000, IFW institute, Dresden, Germany
2. Share in the scientific program of Federal Ministry of Education and Research BMBF
"Entwicklung von Katalysatoren fuer Anoden der DMFC" 2001-2004, Ulm
University, Germany

V. Teaching and other activities

1. Lecturer of the training course "Materials Behaviour and Corrosion", National
Research Centre, Physical Chemistry Department, 3-7 February (2001)

2. Share in the training program of “Interfacial Electrochemistry and Electrocatalysis”, Ulm University, Germany 8-17 September (2001)
3. Senior researcher in Ulm University, Germany, (8.04.2001 till 7.04.2003)
4. Supervise of the Master thesis of Mr. Khaled Soliman, National research Centre, Physical Chemistry Department, Egypt, (2001-2003)
5. Lecturer in German University in Cairo, Materials Engineering Department as well as Physical Chemistry Dept. (1.09.2004 till now),

Course “402” Physical Chemistry for Pharmacy (Electrochemistry)

Course “401” Introduction to Materials Science II (Metallic materials)

Course “701” Corrosion Damage and wear

Course “701” Physical Chemistry II for Biotechnology

Supervisor of “301, 401, 601” Material Science Laboratory

Supervisor of “401” Physical Chemistry Laboratory

Supervisor of “701” Corrosion Damage and Wear Laboratory

Supervisor of “701” Physical Chemistry II lab for Biotechnology

Previous Stays Abroad

Period	Institution	Purpose	Financial Revenues	Name & Address of Mentor
Oct. 1997- July 2000	IFW (IMM) Institute, Dresden Germany,	Ph.D. student, DAAD scholarship		
April 2001- Jun 2004	Ulm University, Ulm Germany,	Post Doctor, DFG/BMBF project		

Reference

- (Prof. Dr. D. M. Kolb, Department of Electrochemistry, Ulm University, 89081 Ulm, Germany. **Phone** +49 731 502 5401 **Fax** +49 731 502 5409)
- (Prof. Dr. A.M. Shams El Din, Physical Chemistry Department, National Research Centre, Dokki, Cairo Egypt. **Phone** +202 3371499 **Fax** +202 3370931)

Publications

I. Journals

- [1] Corrosion Inhibition of Mildsteel by Sodium Tungstate in Neutral Solutions
J. M. Abd El-Kader, A. A. El-Warraky and A. M. Abd El-Aziz
Br. Corrosion J., 33 (2), (1998), P. 139 Part No. 1
- [2] Corrosion Inhibition of Mildsteel by Sodium Tungstate in Neutral Solutions
J. M. Abd El-Kader, A. A. El-Warraky and A. M. Abd El-Aziz
Br. Corrosion J., 33 (2), (1998), P. 145 Part No. 2
- [3] Corrosion Inhibition of Mildsteel by Sodium Tungstate in Neutral Solutions
J. M. Abd El-Kader, A. A. El-Warraky and A. M. Abd El-Aziz
Br. Corrosion J., 33 (2), (1998), P. 152 Part No. 3
- [4] Corrosion behaviour of Nd-Fe-B permanent magnetic alloys
L. Schultz, A. M. El-Aziz, G. Barkleit, K. Mummert
Mater. Sci. and Engineering A, 267, (1999), P. 307
- [5] Investigations of the corrosion behaviour of nanocrystalline Nd-Fe-B hot pressed magnet
A. M. El-Aziz, A. Kirchner, O. Gutfleisch, A. Gebert, L. Schultz
J. Alloys and Compounds, 311, (2000), P. 299
- [6] Korrosionsverhalten von Nd-Fe-B Dauermagneten
A. M. El-Aziz, G. Barkleit, K. Mummert, L. Schultz, W. Rodewald
Materials and Corrosion, 51, (2000), P. 13
- [7] Effect of Al additives and annealing time on microstructure and corrosion resistance of Nd-Fe-B alloys
O. Filip, A. M. El-Aziz, R. Hermann, K. Mummert, L. Schultz
Materials Letters, 51, (2001), P. 213
- [8] Characterisation of electrochemical interactions between single phases of Nd-Fe-B permanent magnets
G. Barkleit, A. M. El-Aziz, F. Schneider, K. Mummert
Materials and Corrosion, 52, 3, (2001), P. 193
- [9] Hot water corrosion behaviour of $Zr_{55}Cu_{30}Al_{10}Ni_5$ bulk metallic glass
A. Gebert, K. Buchholz, A. M. El-Aziz, J. Eckert
Mater. Sci. and Engineering A, 316, (2001), P. 60
- [10] Influence of steps on the electrochemical oxidation of CO adlayers on Pd(111) and on Pd film electrodeposited onto Au(111)
A. M. El-Aziz, L. A. Kibler, D. M. Kolb
J. Electroanalytical Chemistry, 534, (2002) P. 107-114

- [11] The potentials of zero charge of Pd(111) and thin Pd Overlayers on Au(111)
A. M. El-Aziz, L. A. Kibler, D. M. Kolb
Electrochemistry Communications, 4, (2002) P. 535-539
- [12] New information about the electrochemical behaviour Ru(0001) in perchloric acid solutions
A. M. El-Aziz, L. A. Kibler
Electrochemistry Communications, 4, (2002) P. 866-870
- [13] Electrochemical behaviour of pseudomorphic overlayers Pd on Au(111)
L. A. Kibler, A. M. El-Aziz, D. M. Kolb
J. Molecular Catalysis A, 199, (2003) P. 57-63
- [14] Corrosion resistance of Nd-Fe-B permanent magnetic alloys
A. M. El-Aziz
Materials and Corrosion, 54, (2003) P. 88-92
- [15] Tuning reaction rates by lateral strain in a palladium monolayer
L. A. Kibler, A. M. El-Aziz, R. Hoyer and D. M. Kolb
Applied chemistry, 44, 14 , (2005), P. 2116 – 2120
- „Gezielte Veränderung der Katalytischen Aktivität einer Palladium-Monoschicht durch Dehnung oder Kompression“
L. A. Kibler, A. M. El-Aziz, R. Hoyer and D. M. Kolb
Angewandte Chemie, 117, 14 , (2005), P. 2116 – 2120
- [16] Electrochemical behaviour of Mo-containing austenitic stainless steels in buffer solution
F. El-Taib Heakal, M. A. Ameer, A. M. El-Aziz, A. m. Fekry
Mat.- Wiss. U. Werkstofftech, 35, 6, (2004), P. 407-412
- [17] Cu redeposition and surface enrichment during the dissolution of Al-Cu alloy in 0.1 M HCl
A.A. El Warraky, A.M. El-Aziz and Kh.A. Soliman,
Egyptian J. of Chemistry (received in 27/12/2003 and accepted for publication in 12/2/2005)
- [18] Cu Redeposition and surface enrichment during the dissolution of Al-Cu alloys in different concentration of NaCl solution
Part (1): Electrochemical Measurements
A. A. El Warraky, A. M. El-Aziz and Kh. A. Soliman
Egyptian J. of Applied Science, 19, 6B, (2004) P. 502-522
- [19] Cu Redeposition and surface enrichment during the dissolution of Al-Cu alloys in different concentration of NaCl solution
Part (2): Spectroscopic analysis measurements
A. A. El Warraky, A. M. El-Aziz and Kh. A. Soliman
Egyptian J. of Applied Science, 19, 6B, (2004) P. 523-549

- [20] Potential of zero free charge of Pd overlayers on Pt(111)
A. M. El-Aziz, R. Hoyer, L. A. Kibler, D. M. Kolb
Electrochimica Acta, 51, 12, (2006), P. 2518-2522
- [21] Hydrogen Evolution Over Bimetallic Systems: Understanding the Trends
J. Greeley, J.K. Nørskov, L.A. Kibler, A.M. El-Aziz, D.M. Kolb
ChemPhysChem. 7, (2006), P. 1032-1035
- [22] Structure and corrosion behaviour of dissimilar steel weldments in acid media
A. M. El-Aziz, W. Khalifa, H. Ahmed, S. El Taweel
Corrosion protection, 11s, A, (2006), P. 275-281

In preparation

Electrochemical behaviour of PtRu(111)
L.A. Kibler, A.M. El-Aziz, R. Hoyer
Manuscript in preparation

Electrochemical and catalytic behaviour of Pd over Ru(0001)
A.M. El-Aziz, L.A. Kibler, R. Hoyer
Manuscript in preparation

II. Conferences

- [1] Corrosion Inhibition of Mildsteel by Sodium Tungstate in Neutral Solutions
J. M. Abd El-Kader, A. A. El-Warraky and A. M. Abd El-Aziz
Proceeding of 1th Intern. Conf. of Electrochemistry and its Applications,
Luxor, Egypt, (1997)
- [2] Corrosion behaviour of Nd-Fe-B permanent magnets
A. M. El-Aziz, G. Barkleit, M. Herrich, K. Mummert, L.Schultz, B. Grieb
“Proc. 15th Intern. Workshop on Rare Earth Magnets and Their Applications”,
Dresden, Germany, 30 August-3 September (1998)
- [3] Corrosion behaviour of single phases of Nd-Fe-B permanent magnets
A. M. El-Aziz, G. Barkleit, K. Mummert
6th all-Polish Corrosion Conf. “Materials and Environment” Czestochowa,
Poland, 22-25 June (1999)
- [4] Corrosion behaviour of Nd-Fe-B HDDR magnets
K. Mummert, A. M. El-Aziz, G. Barkleit
EuroCorr 99, Aachen 30 August 2 Sept. (1999)
- [5] Why does Nd-Fe-B magnet corrode?
A. M. El-Aziz
17th Annual Meeting of Egyptian Corrosion Society, Hurghada, Egypt, (2001)
- [6] Corrosion resistance of Nd-Fe-B HDDR magnets and their single phases
A. M. El-Aziz
Proceeding of 3th Intern. Conf. of Electrochemistry and its Applications,
Luxor, Egypt, (2001)

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- [7] Electrochemical behaviour of Pd overlayers on Au(111) versus Pd(111)
L. A. Kibler, A. M. El-Aziz, D. M. Kolb
Faraday Discussion 121, Berlin, Germany, 15-17 April (2002)
- [8] Electrochemical behaviour of nanocrystalline and submicro- Na-Fe-B magnetic alloys
A. M. El-Aziz
5th Intern. Symposium on Functional π - Electron Systems, Ulm, Germany, 30 May-4 April (2002)
- [9] Electrocatalytic reactivity of Pd(111) and Pd thin films on Au(111)
A. M. El-Aziz, L. A. Kibler, D. M. Kolb
2nd Gerischer – Symposium of Electrode Kinetics and New Developments, Berlin, Germany, 24-26 June (2002)
- [10] Electrocatalytic properties of Pd(111) surfaces
A. M. El-Aziz, R. Hoyer, L. A. Kibler, D. M. Kolb
2nd Gerischer – Symposium of Electrode Kinetics and New Developments, Berlin, Germany, 24-26 June (2002)
- [11] Non-UHV preparation of reactive-metal single crystal electrodes
A. M. El-Aziz, L. A. Kibler, D. M. Kolb
53rd Annual Meeting of the International Society of Electrochemistry
“Electrochemistry in Molecular and Microscopic Dimensions” Düsseldorf, Germany, 15-20 Sept. (2002)
- [12] From Pd single crystals to Pd monolayers
L. A. Kibler, A. M. El-Aziz, R. Hoyer, D. M. Kolb
1st Spring Meeting of the International Society of Electrochemistry
“Trends in Surface Electrochemistry: from Single crystals to Nanoparticals” Alicante, Spain, 2-6 March (2003)
- [13] Preparation and electrochemical behavior of Ru(0001)
A. M. El-Aziz, L. A. Kibler
“ Bunsentagung” Kiel, Germany, 29-31 May (2003)
- [14] The potentials of zero charge of pd(111) and ultrathin Pd films on Au(111) and Pt(111)
L. A. Kibler, A. M. El-Aziz, R. Hoyer, D. M. Kolb
DPG-tagung, Dresden, Germany 24-28 March (2003)
- [15] Electrochemistry of PtRu(111) single crystal surfaces
A. M. El-Aziz, R. Hoyer, L. A. Kibler
54rd Annual Meeting of the International Society of Electrochemistry
“The Role of Electrochemistry in the Sustained Development of Modern Societies”
Sao Pedro, Brazil, 31 August- 5 Sept. (2003)
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- [16] In-Situ Characterization of Bimetallic (111) surfaces
R. Hoyer, A. M. El-Aziz, L. A. Kibler and D. M. Kolb
54th Annual Meeting of the International Society of Electrochemistry
“The Role of Electrochemistry in the Sustained Development of Modern Societies”
Sao Pedro, Brazil, 31 August- 5 Sept. (2003)
- [17] Geometric and Electronic Effect in Electrocatalysis: Palladium Monolayers
L. A. Kibler, A. M. El-Aziz, R. Hoyer, D. M. Kolb
“ Bunsentagung” Deasden, Germany, 20-22 May (2004)
- [18] Electrocatalysis with Pd monolayers on Au, Pt, Rh, Ir, Ru, Re and PtRu single Crystals
L.A. Kibler, A.M. El-Aziz, R. Hoyer, D.M. Kolb
International Conference on Electrified Interfaces, Spa, Belgium, 11-16 July (2004)
- [19] Hydrogen evolution on Pd overlayers
55th Annual Meeting of the International Society of Electrochemistry
L.A. Kibler, A.M. El-Aziz, D.M. Kolb
Thessaloniki, Greece, 19-24 November (2004)
- [20] Corrosion behaviour of magnetic alloys
A. M. El-Aziz, L. Schultz, A. Gebert
The 23rd Annual Conference of Corrosion Problems In Industry,
Egypt, 6-9 December (2004)
- [21] Modern Aspects in Fuel Cell Technology
A. M. El-Aziz
Hydrogen Economy in Egypt, Cairo, 31 January (2005)
- [21] Structure and corrosion behaviour of dissimilar steel weldments in acid media
A. M. El-Aziz, W. Khalifa, H. Ahmed, S. El Taweel
12th Corrosion Symposium, “New Achievements in Corrosion Research and Engineering” Szczyrk (Poland), 22-24 November 2006
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